

# Richard S Falk

## List of Publications by Year in descending order

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51  
papers

4,098  
citations

172457

29  
h-index

206112

48  
g-index

51  
all docs

51  
docs citations

51  
times ranked

1472  
citing authors

#	ARTICLE	IF	CITATIONS
1	Finite element exterior calculus, homological techniques, and applications. <i>Acta Numerica</i> , 2006, 15, 1-155.	10.7	656
2	Finite element exterior calculus: from Hodge theory to numerical stability. <i>Bulletin of the American Mathematical Society</i> , 2010, 47, 281-354.	1.5	346
3	Error estimates for the approximation of a class of variational inequalities. <i>Mathematics of Computation</i> , 1974, 28, 963-971.	2.1	255
4	Multigrid in $H(\text{div})$ and $H(\text{curl})$ . <i>Numerische Mathematik</i> , 2000, 85, 197-217.	1.9	253
5	A Uniformly Accurate Finite Element Method for the Reissner-Mindlin Plate. <i>SIAM Journal on Numerical Analysis</i> , 1989, 26, 1276-1290.	2.3	245
6	Mixed finite element methods for linear elasticity with weakly imposed symmetry. <i>Mathematics of Computation</i> , 2007, 76, 1699-1724.	2.1	215
7	Basic principles of mixed Virtual Element Methods. <i>ESAIM: Mathematical Modelling and Numerical Analysis</i> , 2014, 48, 1227-1240.	1.9	215
8	Quadrilateral $H(\text{div})$ Finite Elements. <i>SIAM Journal on Numerical Analysis</i> , 2005, 42, 2429-2451.	2.3	182
9	Approximation by quadrilateral finite elements. <i>Mathematics of Computation</i> , 2002, 71, 909-922.	2.1	177
10	Stability of Higher-Order Hood-Taylor Methods. <i>SIAM Journal on Numerical Analysis</i> , 1991, 28, 581-590.	2.3	135
11	Nonconforming finite element methods for the equations of linear elasticity. <i>Mathematics of Computation</i> , 1991, 57, 529-550.	2.1	125
12	The Boundary Layer for the Reissner-Mindlin Plate Model. <i>SIAM Journal on Mathematical Analysis</i> , 1990, 21, 281-312.	1.9	97
13	Asymptotic Analysis of the Boundary Layer for the Reissner-Mindlin Plate Model. <i>SIAM Journal on Mathematical Analysis</i> , 1996, 27, 486-514.	1.9	94
14	Explicit Finite Element Methods for Symmetric Hyperbolic Equations. <i>SIAM Journal on Numerical Analysis</i> , 1999, 36, 935-952.	2.3	88
15	A new mixed formulation for elasticity. <i>Numerische Mathematik</i> , 1988, 53, 13-30.	1.9	80
16	Error estimates for the numerical identification of a variable coefficient. <i>Mathematics of Computation</i> , 1983, 40, 537-546.	2.1	78
17	Mixed Finite Elements, Compatibility Conditions, and Applications. <i>Lecture Notes in Mathematics</i> , 2008, , ,	0.2	66
18	Geometric decompositions and local bases for spaces of finite element differential forms. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2009, 198, 1660-1672.	6.6	59

#	ARTICLE	IF	CITATIONS
19	Preconditioning discrete approximations of the Reissner-Mindlin plate model. ESAIM: Mathematical Modelling and Numerical Analysis, 1997, 31, 517-557.	1.9	46
20	Locking-free Reissner-Mindlin elements without reduced integration. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 3660-3671.	6.6	45
21	Stability of cylindrical bodies in the theory of surface diffusion. Physica D: Nonlinear Phenomena, 1995, 89, 123-135.	2.8	44
22	Hexahedral $H(\text{div})$ and $H(\text{curl})$ finite elements. ESAIM: Mathematical Modelling and Numerical Analysis, 2011, 45, 115-143.	1.9	44
23	Space-Time Finite Element Methods for Surface Diffusion with Applications to the Theory of the Stability of Cylinders. SIAM Journal of Scientific Computing, 1996, 17, 1434-1448.	2.8	43
24	Locking-free finite elements for the Reissner-Mindlin plate. Mathematics of Computation, 1999, 69, 911-929.	2.1	40
25	Differential Complexes and Stability of Finite Element Methods II: The Elasticity Complex. , 2006, , 47-67.		38
26	Equivalence of Finite Element Methods for Problems in Elasticity. SIAM Journal on Numerical Analysis, 1990, 27, 1486-1505.	2.3	37
27	Local bounded cochain projections. Mathematics of Computation, 2014, 83, 2631-2656.	2.1	37
28	Well-posedness of the fundamental boundary value problems for constrained anisotropic elastic materials. Archive for Rational Mechanics and Analysis, 1987, 98, 143-165.	2.4	35
29	Finite element approximation on quadrilateral meshes. Communications in Numerical Methods in Engineering, 2001, 17, 805-812.	1.3	31
30	Analysis of a Continuous Finite Element Method for Hyperbolic Equations. SIAM Journal on Numerical Analysis, 1987, 24, 257-278.	2.3	29
31	Differential Complexes and Stability of Finite Element Methods I. The de Rham Complex. , 2006, , 23-46.		27
32	An error estimate for the truncation method for the solution of parabolic obstacle variational inequalities. Mathematics of Computation, 1977, 31, 619-628.	2.1	27
33	Local Error Estimates for a Finite Element Method for Hyperbolic and Convection-Diffusion Equations. SIAM Journal on Numerical Analysis, 1992, 29, 730-754.	2.3	26
34	Analysis of a Linear-Linear Finite Element for the Reissner-Mindlin Plate Model. Mathematical Models and Methods in Applied Sciences, 1997, 07, 217-238.	3.3	25
35	A Penalty and Extrapolation Method for the Stationary Stokes Equations. SIAM Journal on Numerical Analysis, 1976, 13, 814-829.	2.3	22
36	MIXED FINITE ELEMENT APPROXIMATION OF THE VECTOR LAPLACIAN WITH DIRICHLET BOUNDARY CONDITIONS. Mathematical Models and Methods in Applied Sciences, 2012, 22, .	3.3	20

#	ARTICLE	IF	CITATIONS
37	An analysis of the finite element method using Lagrange multipliers for the stationary Stokes equations. <i>Mathematics of Computation</i> , 1976, 30, 241-241.	2.1	19
38	Finite Element Methods for Linear Elasticity. <i>Lecture Notes in Mathematics</i> , 2008, , 159-194.	0.2	19
39	A Fortin operator for two-dimensional Taylor-Hood elements. <i>ESAIM: Mathematical Modelling and Numerical Analysis</i> , 2008, 42, 411-424.	1.9	16
40	Finite Elements for the Reissner-Mindlin Plate. <i>Lecture Notes in Mathematics</i> , 2008, , 195-232.	0.2	13
41	A finite element method for the stationary Stokes equations using trial functions which do not have to satisfy $\{m \operatorname{div}\}u = 0$ . <i>Mathematics of Computation</i> , 1976, 30, 698-698.	2.1	9
42	Techniques for Thermal Conductivity Measurements in Antarctica. <i>Annals of Glaciology</i> , 1982, 3, 96-102.	1.4	8
43	Double complexes and local cochain projections. <i>Numerical Methods for Partial Differential Equations</i> , 2015, 31, 541-551.	3.6	8
44	A New Approach to Numerical Computation of Hausdorff Dimension of Iterated Function Systems: Applications to Complex Continued Fractions. <i>Integral Equations and Operator Theory</i> , 2018, 90, 1.	0.8	6
45	Error estimates for the approximate identification of a constant coefficient from boundary flux data. <i>Numerical Functional Analysis and Optimization</i> , 1980, 2, 121-153.	1.4	5
46	The Bubble Transform: A New Tool for Analysis of Finite Element Methods. <i>Foundations of Computational Mathematics</i> , 2016, 16, 297-328.	2.5	5
47	Techniques for Thermal Conductivity Measurements in Antarctica. <i>Annals of Glaciology</i> , 1982, 3, 96-102.	1.4	3
48	Explicit Finite Element Methods for Linear Hyperbolic Systems. <i>Lecture Notes in Computational Science and Engineering</i> , 2000, , 209-219.	0.3	3
49	Finite element differential forms. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2007, 7, 1021901-1021902.	0.2	1
50	On the consistency of the combinatorial codifferential. <i>Transactions of the American Mathematical Society</i> , 2014, 366, 5487-5502.	0.9	1
51	Analysis of Finite Element Methods for Linear Hyperbolic Problems. <i>Lecture Notes in Computational Science and Engineering</i> , 2000, , 103-112.	0.3	0